

EXHIBIT C

Appendix C: Technical References

FILE 1 – AOC Cost Strategy

1. Katcher, Bruce S. et al. (2016) (Manko, Gold and Fox) <http://www.lexicology.com/library/detail>, Lexicology, ***NJDEP Again Adopts Substantial Hikes in Site Remediation Program Fees Beginning July 1, 2016.*** (2 pp)
2. *Site Remediation Program (2016)* <http://www.nj.gov/dep/srp/fees/>, ***Annual Site Remediation Reform Act Program Fee Calculation Report, Comparison of Fiscal Year 2016 with Fiscal Year 2017.*** (3 pp)

FILE 2 – Groundwater Pump and Treat Optimization

1. EPA 542-R-07-A 005 (May 2007) www.gov/superfund.com, ***A Cost Comparison Framework for Use in Optimizing Ground Water Pump and Treat Systems.*** (10 pp)
2. EPA 542-R-01-021b (December 2001) www.gov/superfund.com, ***Groundwater Pump and Treat Systems: Summary of Selected Cost and Performance Information at Superfund-financed Sites.*** (41 pp)
3. Welt, BBL Inc. (BBL An Arcadis Company), ***Vapor Intrusion Mitigation Engineering Controls: Comparison of Methods, Costs, and Implementation.***

FILE 3 – In Situ Chemical Oxidation

1. AECOM (2016) www.aecom.com, ***Overview of ISCO In Situ Chemical Oxidation.***
2. Rees, Assaf, PE 1 et al. (August 20, 2012) AECOM, ***Source Area MIP Investigation and Pilot-Scale Groundwater Remediation Using Activated Persulfate.***
3. Chappelle, Francis et al., *Ground Water Monitoring and Remediation* 25, No. 2 (Spring 2005), ***Behavior of a Chlorinated Ethene Plume Following Source-area Treatment with Fenton's Reagent.*** (10 pp)
4. Cronk, Gary, P.E., JAG Consulting Group (2007), ***Expediting Cleanup of a Pump and Treat Site By Use of Chemical Oxidation Technology.*** (11 pp)
5. Edel, Hans-Georg, et al., Zublin (no date), ***In-situ Chemical Oxidation (ISCO) Experiences from a Successful source remediation project.*** (12 pp)
6. U.S. Department of Energy (September 1999), ***Innovative Technologies Report, In Situ Chemical Oxidation Using Potassium Permanganate.*** (22 pp)
7. FRTR Remediation Technologies Screening Matrix and Reference Guide, Version 4.0, <https://frtr/gpv?matrix2/section4/4-43.htm>, ***Section 4.34, Chemical Oxidation.***
8. Geo-Cleanse Technology (September 19, 1997), ***Final Report for Demonstration of In Situ Oxidation of DNAPL Using the Geo-Cleanse Technology.*** (24 pp)
9. GW Technology, ***Chemical Oxidation Racer Parameters.*** (1 p)
10. Hulling, Scott, USEPA, Engineering Issue (2006), ***In-Situ Chemical Oxidation.*** (61 pp)

11. Illinois Environmental Protection Agency (September 2008), ***Chemical Oxidation Guidance, Leaking Underground Storage Tank Program, Use of In-Situ Chemical Oxidant Compound Injection***. (7 pp)
12. ISCO Presentation Topics, ***Promoting Readiness through Environmental Stewardship, Ozone, Hydrogen Peroxide, Calcium Peroxide, Sodium Persulfate, Sodium/Potassium Permanganate***.
13. ITRC Technical/Regulatory Guidelines (June 2001), ***Technical and Regulatory Guidance for In Situ Chemical Oxidation of Contaminated Soil and Groundwater First Edition***. (30 pp)
14. ITRC Technical/Regulatory Guidelines (January 2005), ***Technical and Regulatory Guidance for In Situ Chemical Oxidation of Contaminated Soil and Groundwater Second Edition***. (30 pp)
15. Krembs, Friedrich et al. (2010), ***Ground Water Monitoring and Remediation, ISCO for Groundwater Remediation: Analysis of Field Applications and Performance***. (pp 42-53)
16. Major, Dave, Geosyntec Consultants (April 2009), ***Environmental Security Technology Certification Program, Final Report Remediation of DNAPL Through Sequential in Situ Chemical Oxidation and Bioaugmentation, ESTC (Project ER-0116)***. (66 pp)
17. Martin, M.Z., ORNL, Lockheed Martin (2002), ***In Situ Chemical Oxidation Through Lance Permeation at the Portsmouth gaseous Diffusion Plant (PORTS)***. (26 pp)
18. McDade, James, et al. (May 5, 2005), ***Analysis of DNAPL Source Depletion Costs at 36 Field Sites***. (20 pp)
19. McGuire, Travis, et al., Groundwater Services Inc. (February 13, 2006), ***Performance of DNAPL Source Depletion Technologies at 59 Chlorinated Solvent-Impacted Sites***. (11 pp)
20. Member Agencies, Federal Remediation Technologies Roundtable (EPA, DOD, DOE, DOI, NASA) (June 2004), ***Abstracts of Remediation Case Studies Volume 8***. (109 pp)
21. Member Agencies, Federal Remediation Technologies Roundtable (EPA, DOD, DOE, DOI, NASA) (July 2005), ***Abstracts of Remediation Case Studies Volume 9***. (87 pp)
22. Member Agencies, Federal Remediation Technologies Roundtable (EPA, DOD, DOE, DOI, NASA) (August 2006), ***Abstracts of Remediation Case Studies Volume 10***. (88 pp)
23. Naval Facilities Engineering Command (NAVFAC) (2011), <https://portal.navfac.navy.mil/portal/>, ***In Situ Chemical Oxidation Fact Sheet***.
24. SERDP (DOD, EPA, DOE) (August 2013), ***The Impact of DNAPL Source-Zone Architecture on Contaminant Mass Flux and Plume Evolution in Heterogeneous Porous Media***. (120 pp)

25. Siegrist, Robert, et al. (July 2015), www.researchgate.net/publications/251216226, ***In situ Chemical Oxidation: Technology Description and Status.***
26. Siegrist, Robert, et al., Environmental Security Technology Certification Program (ESTCP) (June 2008), ***Workshop Report In Situ Chemical Oxidation for Remediation of Contaminated Groundwater: Summary Proceedings of the ISCO Technology Practices Workshop. (ESTCP Project ER-0623).*** (64 pp)
27. Suthersan, Suthan, et al. (December 2014), ***Ground Water Monitoring and Remediation, The Remediation Pendulum: Revisiting Physical Remediation Using State-of-the-Science Design Principles.*** (6 pp)
28. Tiwari, Amit Kumar, Symbiotic Pharmalab, Ltd. (October 2013), ***Fenton's Reagent dose Calculation with respect to COD value and the process requirement optimization for effective oxidation of Aqueous Mother Liquor Effluent of an API Manufacturing Industry.*** (8 pp)
29. Trapido, Goi et al., World Academy of Science, Engineering and Technology (May 2009), ***Contaminated Soil Remediation with Hydrogen Peroxide Oxidation.*** (pp 185-189)
30. USP Technologies (2016), ***Fenton's Reagent General Chemistry Using H2O2.*** (4 pp)
31. West, O. R. et al., Oak Ridge National Laboratory (ORNL), Lockheed Martin (June 6, 1998), ***A Full-Scale Demonstration of In Situ Chemical Oxidation Through Recirculation at X-701B Site.*** (69 pp)
32. Wickman, D. A. (April 22, 1998), Restoration Center, Office of Habitat Conservation, NOAA, National Marine Fisheries Service, Silver Springs, MD, ***Estimating Administrative and Procedural Costs for Natural Resource Restoration Settlements.***

FILE 4 – RACER®

1. AECOM (Racer@aecom.com), ***Overview of the Remedial Action Engineering Requirements (RACER®) Software.***
2. AECOM (Racer@aecom.com), ***RACER 199 Training Manual 11.3.*** (97 pp)
3. AECOM (Racer@aecom.com), ***RACER 199 What's New in 11.3.*** (3 pp)
4. ASTM International Designation: E2150-13, ***Standard Classification for Life-Cycle Environmental Work Elements – Environmental Cost Element Structure.*** (14 pp)
5. ASTM Designation: E2637-13, ***Standard Guide for Utilizing the Environmental Cost Element Structure Presented by Classification E2150.*** (10 pp)
6. ASTM Designation: E2137-06 (Reapproved 2011), ***Standard Guide for Estimating Monetary Costs and Liabilities for Environmental Matters.*** (10 pp)
7. U.S. Army Corps of Engineers and U.S. EPA (July 2000), ***A Guide to Developing and Documenting Cost Estimates During the Feasibility Study.*** (18 pp)

8. Racer Technical Review Group (August 2014), ***Five Year Operating Plan for the Remedial Action Cost Engineering and Requirements (RACER) Application***. (26 pp)
9. U.S. Army Environmental Command (USAEC) (September 23, 2009), ***Final Validation Report (Version 3.0) for RACER Services and Verification and Validation***. (210 pp)

FILE 5 – Remedial Strategy for PFOA

1. Ross, Ian, FMC Environmental and Burdick, ARCADIS (December 2011), ***FMC Environmental Solutions Peroxygen Talk***. (6 pp)
2. Soil and Groundwater Remediation of PFOS/PFOA (2016), <http://www.primozone.com/industrial/groundwater-remediation>. (1 p)
3. ***Status of NJDEP PFOA Activates*** (August 8, 2009), www.state.nj.us/dep/watersupply/pfoa.htm. (4 pp)
4. Torneman, Niklas, Sweco Environment et al. (2011), ***Remedial Methods and Strategies for PFCs***. (5 pp)

FILE 6 – Vapor Intrusion

1. Hatton, Tom, Clean Vapor, LLC, ***Designing Efficient Sub Slab Collection and Vapor Barrier Systems***.
2. Kilmer, P.G. et al., TRC (2016), ***Vapor Intrusion Mitigation Let Me Count the Ways***. (5 pp)
3. NJDEP Site Remediation and Waste Management Program (August 2016), ***Vapor Intrusion Guidance***. (11 pp)
4. Schmidt, Martin, Cox-Colvin & Associates (2016), ***Vapor Intrusion Fundamentals Part 14 (Passive Vapor Mitigation Systems)***. (4 pp)
5. ***Vapor Intrusion Control Appendix J*** (October 2014), [Http://www.itrcweb.org/PetroleumVI-Guidance/Content/Appendix520J](http://www.itrcweb.org/PetroleumVI-Guidance/Content/Appendix520J). (16 pp)
6. U.S. EPA Engineering Issue (October 2014), ***Indoor Air Vapor Intrusion Mitigation Approaches***, www.itrcweb.org/PetroleumVI-Guidance/Content/Appendix%20J. (5 pp)
7. Welt, S., et al. (BBL an Arcadis Company) (no date), ***Vapor Intrusion Mitigation Engineering Controls: Comparison of Methods, Costs, and Implementation PowerPoint Presentation***. (20 pp)

FILE 7 – Remedial Cost Estimating

1. Abelow, Bradley, Environmental Financial Advisory Board (December 16, 2010), ***Providing Advice on "How to Pay" for Environmental Protection***. (2 pp)
2. Dysert Larry, AAEE International Transactions EST. 03 (2008), ***An Introduction to Parametric Estimating***. (7 pp)

3. American Bar Association Section of Environment Energy and Resources (December 2012), ***Environmental Disclosure Committee Newsletter***. (18 pp)
4. Environmental Financial Advisory Board (December 2010), ***Improving Cost Estimation as a Financial Assurance Tool***. (8 pp)
5. Goldstein, Mike et al. (2001), University of Nebraska – Lincoln, USEPA Papers (2001), ***A Practical Guide to Estimating Cleanup Costs***. (pp 102-121)
6. Hale, Mathew, Director USEPA (January 30, 2007), ***Review of Financial Assurance Information When a RCRA Permit is Issued, Renewed or Reviewed***. (3 pp)
7. Ram, Neil et al., Wiley Periodicals, Inc. (2013), ***Estimating Remediation Costs at Contaminated Sites With Varying Amounts of Available Information***. (pp 43-58)
8. U.S. Department of Defense, Office of Inspector General (May 5, 2004), ***Environmental Liabilities Required to be Reported on Annual Financial Statements (D-2004-080)***. (24 pp)
9. U.S. Department of Energy, Office for Environmental Management (February 26, 2015), ***Cost Estimate Development Handbook with Cover Letter by Mark Whitney***. (17 pp)
10. U.S. EPA Archives (no date), ***Cost Estimating for RCRA Financial Assurance***. (11 pp)
11. U.S. EPA, Office of Solid Waste Management (September 1996), ***The Role of Cost in the Superfund Remedy Selection Process***. (8 pp)
12. U.S. EPA, Office of Research and Development (April 1999), ***Cost Estimating Tools and Resources for Addressing Sites Under the Brownfields Initiative***. (10 pp)
13. U.S. EPA (September 8, 2004), ***Interim Measures Cost Compendium***. (47 pp)

FILE 8 – Estimating References

1. CDM, www.cdm.com, ***Cost Estimating Process***. (pp 5.1-5.6)
2. Improvement Skills Consulting (2012), ***Estimating Methods***. (1 p)
3. NASA, www.nasa.gov (February 2015), NASA Cost Estimating Handbook, Version 4.0. (33 pp)
4. Remediation U.S. Department of Interior, Wiley Publications (2013), ***Calculating Project Costs Considering Temporal Expenditures***. (pp 50-57)

FILE 9 – NJDEP Guidance – Cost Estimating

1. Site Remediation Program, www.nj.gov/dep/srp/rfs (2016), ***Remediation Funding Source***.
2. ***NJDEP Site Remediation Program*** (PowerPoint presentation). (pp 12, 13, 15, 21)

3. NJDEP Site Remediation Program (December 3, 2013), ***Technical Impracticability Guidance for Ground Water***. (24 pp)

FILE 10 – Contaminated Sediments

1. Bosch, Adam (February 7, 2011), www.recordonline.com, ***Toxic Coal-Tar Cleanup to cost New York \$3 Billion***. (9 pp)
2. Douglas, Scott, et al. (2011), www.NJ.gov/decon-paper/douglas, ***The Use of Sediment Decontamination Technologies for the Management of Contaminated Navigational Dredged materials***. (16 pp)
3. Engineer Research and Development Center (ERDCO), www.erdco.usace.army.mil/ (September 2005), ***Cost Estimating for Contaminated Sediment Treatment – A Summary of the State of the Practice***. (13 pp)
4. Lawler, Matusky & Skelly Engineers LLP for NJDOT (2005), ***Public and Private Dredged Material Management Strategies in New Jersey***. (131 pp)
5. Great Lakes Dredge and Dock Group (October 5, 2015), ***Great Lakes Announces Award of Three Projects on the Delaware River – Combined Value of \$99 Million***. (3 pp)
6. McDonough, F.M. et al. (2002), ***Dredged Material Management in New Jersey: A Multifaceted Approach for Meeting Statewide Dredging Needs in the 21st Century***. (20 pp)

EXHIBIT D

December 2, 2016

Appendix D: TBLs RACER® Model Generated Reports

- **Site Cost Summary Reports (By AOC)**
- **Preferences Report**
- **Cost Over Time**